Fisher ROC Serial Driver Help

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Fisher ROC Serial Driver Help

Help version 1.068

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Overview

The Fisher ROC Serial Driver provides a reliable way to connect Fisher ROC Serial controllers to OPC client applications, including HMI, SCADA, Historian, MES, ERP, and countless custom applications.

Note: For more information on available Opcodes, Point Types, Parameters, and Opcode 255 Error Codes, refer to the ROC Protocol User Manual.

Important: EFM functionality is not available in all server versions. To determine whether support is available, refer to the "Server Summary Information" topic located in the server help file.

Supported Devices

FloBoss 100 Series
FloBoss 407
FloBoss 500 Series
ROC 300 Series-ROCPAC
ROC 300 Series-FlashPAC
RegFlo

Supported Protocol

Remote Operation Controllers (ROC)

Maximum Number of Channels and Devices

The maximum number of supported channels is 256. The maximum number of devices supported per channel is 255.

Ethernet Encapsulation

This driver supports Ethernet Encapsulation, which allows communications with serial devices attached to an Ethernet network using a Serial-to-Ethernet server. It may be enabled through the Communications tab in Channel Properties. For more information, refer to "Channel Properties - Ethernet Encapsulation" in the server's help documentation.

Important: Some FloBoss 100 Series devices (such as FloBoss 107) fail to respond to TCP requests that use Explicit Congestion Notification (ECN). To communicate with these devices, the global TCP/IP ECN parameter must be disabled.

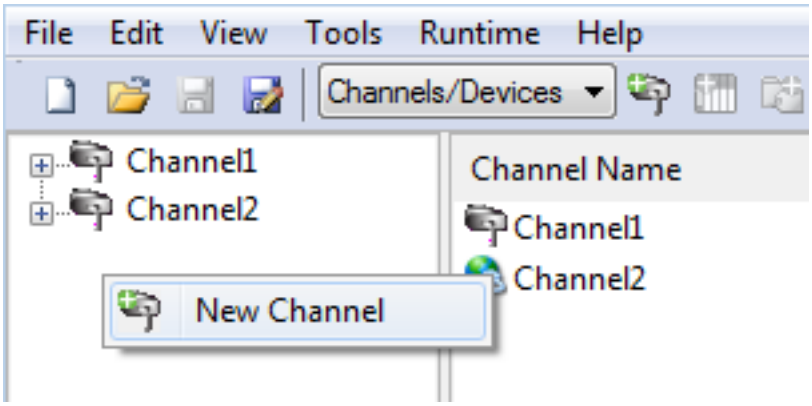
Note: This driver does not support Report by Exception.

Channel Setup

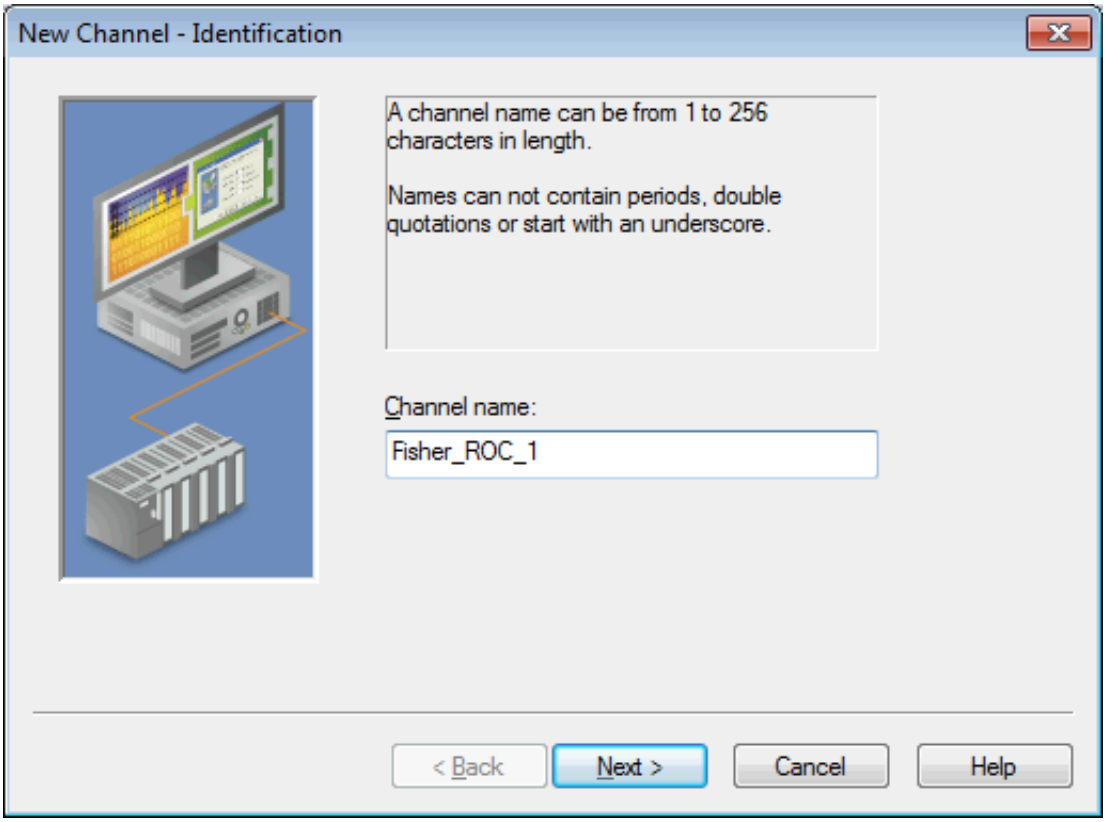
The Fisher ROC Serial Driver supports Communication Serialization, which specifies whether data transmissions should be limited to one channel at a time. For more information, refer to "Channel Properties - Advanced" in the server help file. The maximum number of supported channels is 256.

To create a new channel:

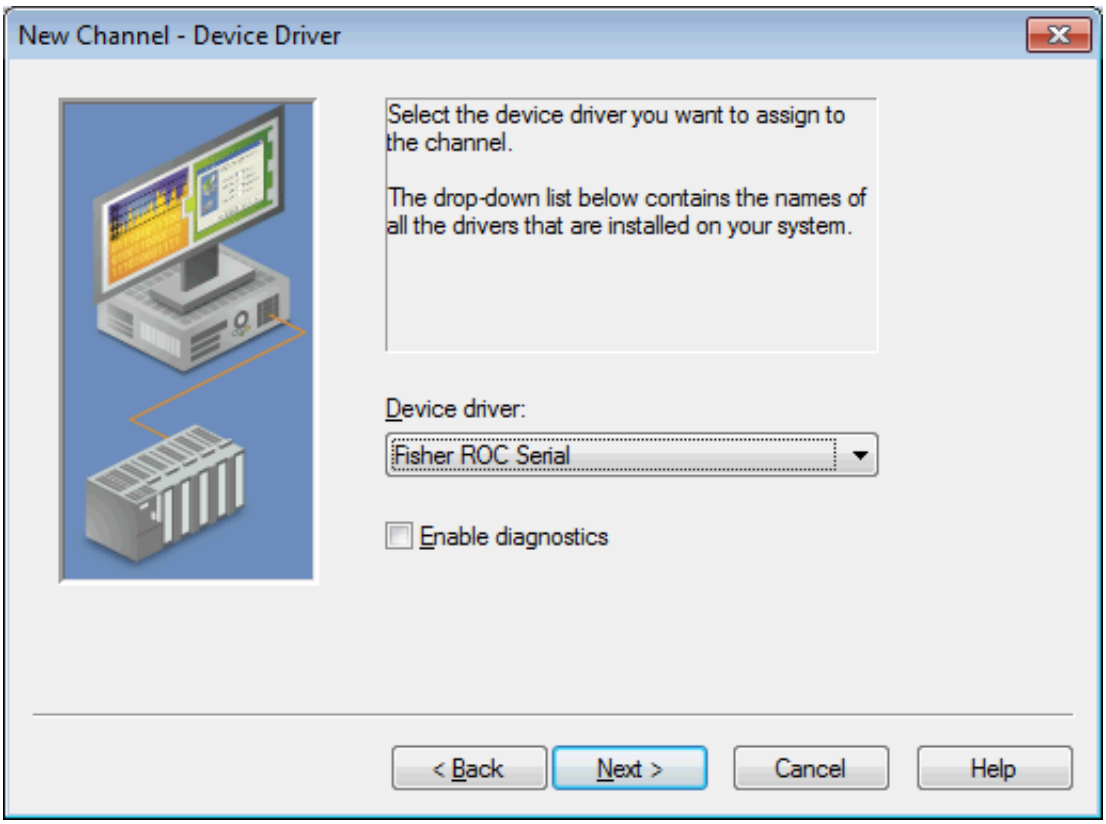
1. In the Project View, right-click and choose **New Channel**.



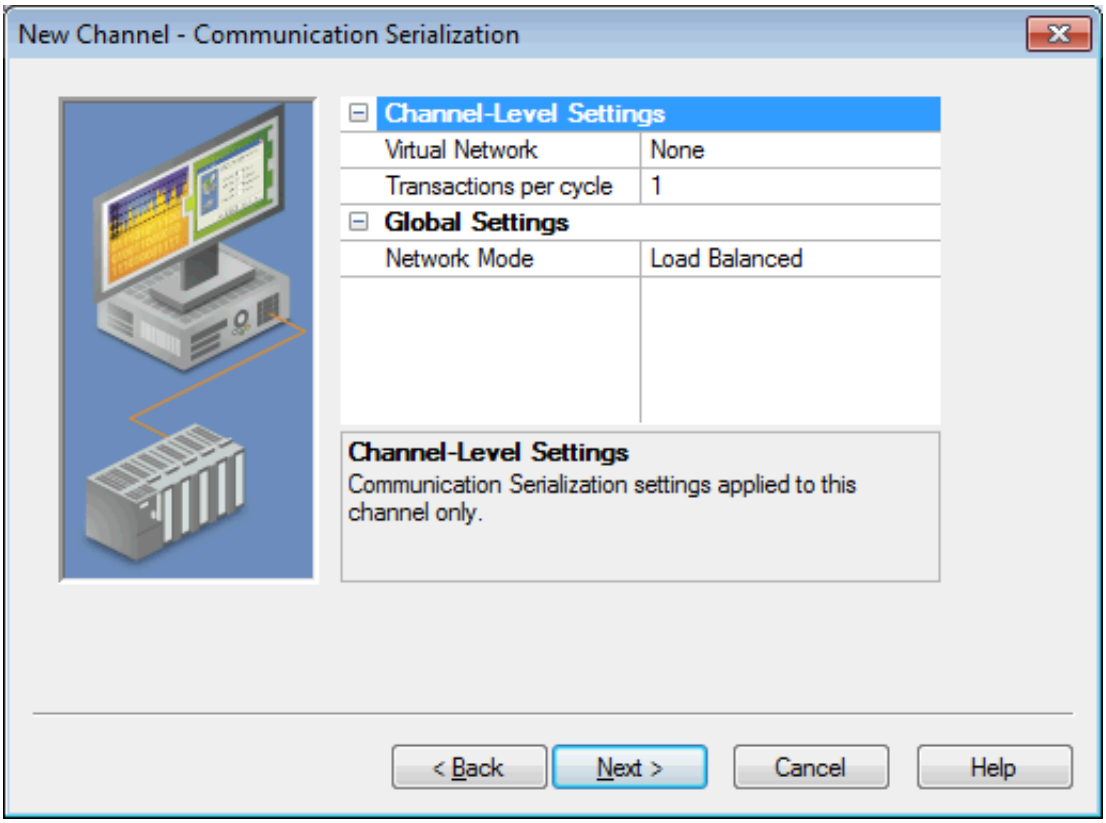
2. Accept the default channel name or enter a name for the new channel.


New Channel - Identification
A channel name can be from 1 to 256 characters in length.
Names can not contain periods, double quotations or start with an underscore.
Channel name:
Fisher_ROC_1
< Back
Next >
Cancel
Help

3. Click **Next >**.
4. From the Device Driver drop-down, select Fisher ROC Serial.

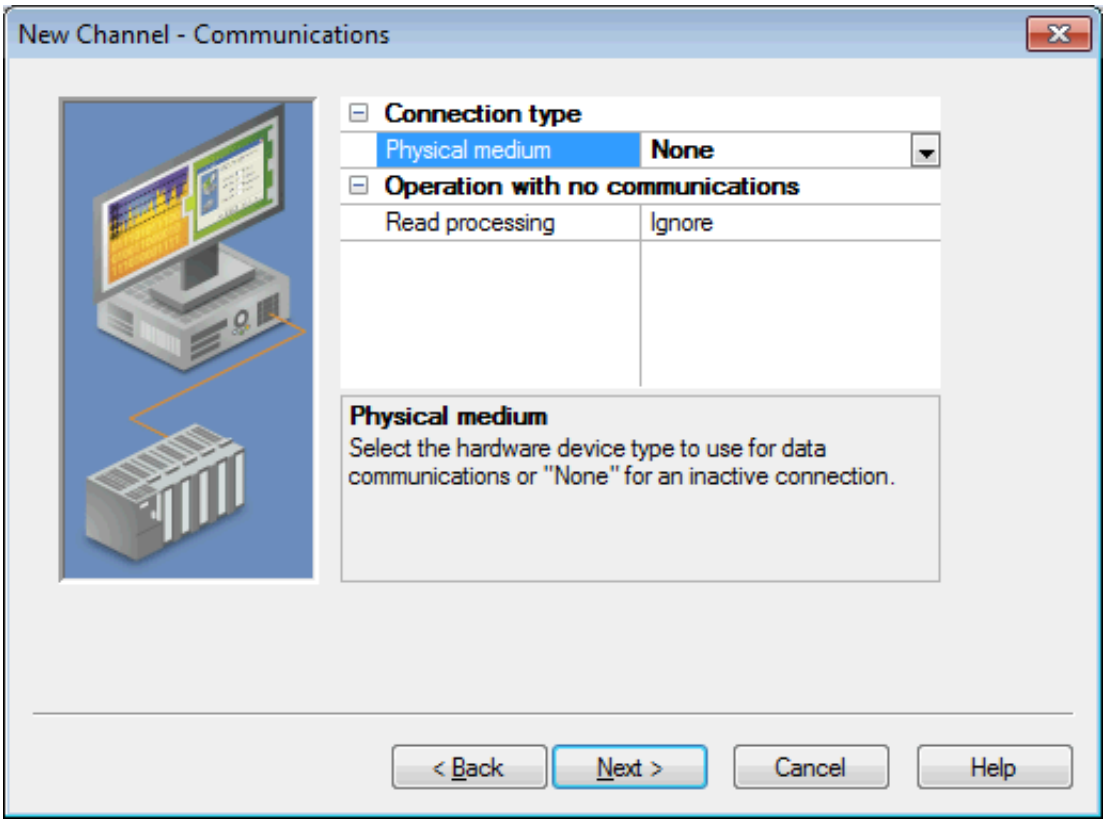

New Channel - Device Driver
Select the device driver you want to assign to the channel.
The drop-down list below contains the names of all the drivers that are installed on your system.
Device driver:
Fisher ROC Serial
Enable diagnostics
< Back
Next >
Cancel
Help

5. Click **Next >**.
6. In the New Channel - Communication Serialization wizard step, configure the channel.



Virtual Network - Select the network name or the default, None
Transactions per cycle - Enter the target number or accept 1 (default).
Network Mode -Select Priority or Load Balanced (default).

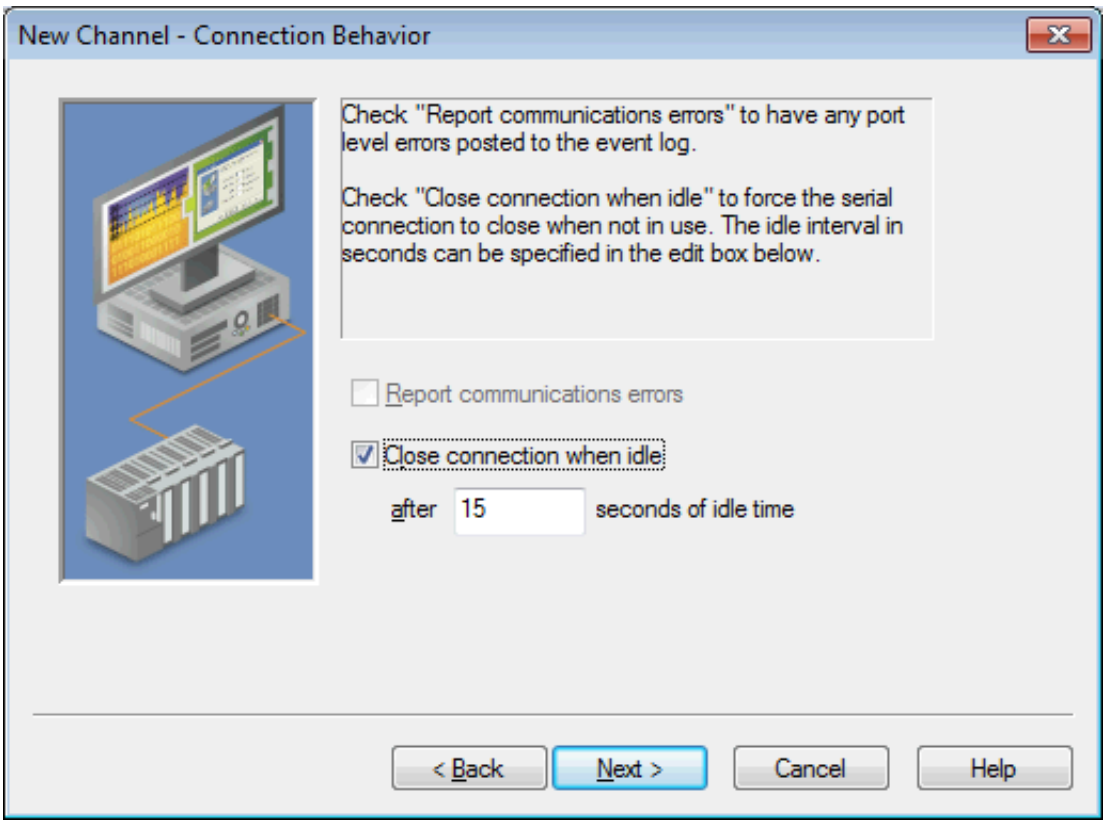
7. Click **Next >**.
8. In the New Channel - Communications wizard step, select **None**, **COM Port**,or **Ethernet Encapsulation**.



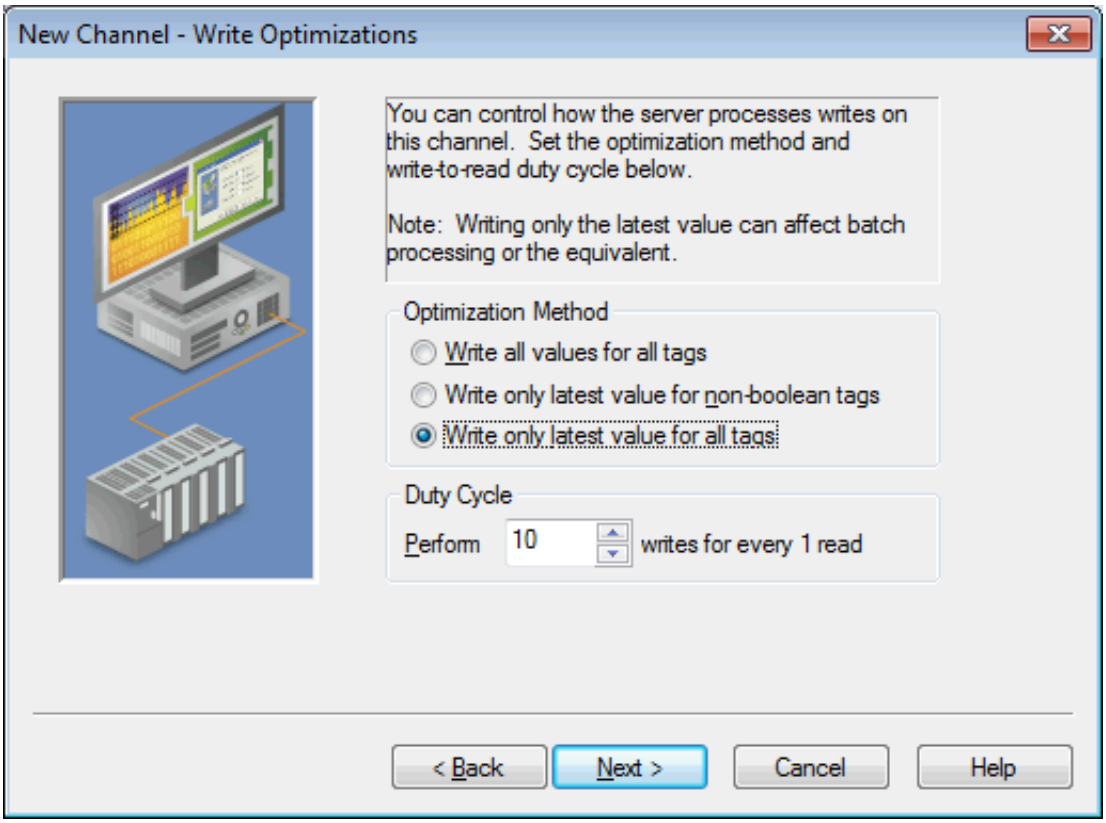
Connection type	
Physical medium	COM Port
Serial Port Settings	
COM ID	3
Baud rate	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Connection type	
Physical medium	Ethernet Encap.
Ethernet Settings	
Network adapter	Default
Device address	
Port	2101
Protocol	TCP/IP
Connect timeout (sec)	3

9. Configure communication based on the environment and click **Next >**.
10. In the New Channel - Connection Behavior wizard step, select **Close connection when idle** to reduce traffic and specify the number of seconds before the connection is terminated.


New Channel - Connection Behavior
Check "Report communications errors" to have any port level errors posted to the event log.
Check "Close connection when idle" to force the serial connection to close when not in use. The idle interval in seconds can be specified in the edit box below.
Report communications errors
Close connection when idle
after 15 seconds of idle time
< Back
Next >
Cancel
Help

11. Click **Next >**.
12. In the New Channel - Write Optimizations wizard step, configure channel writes.

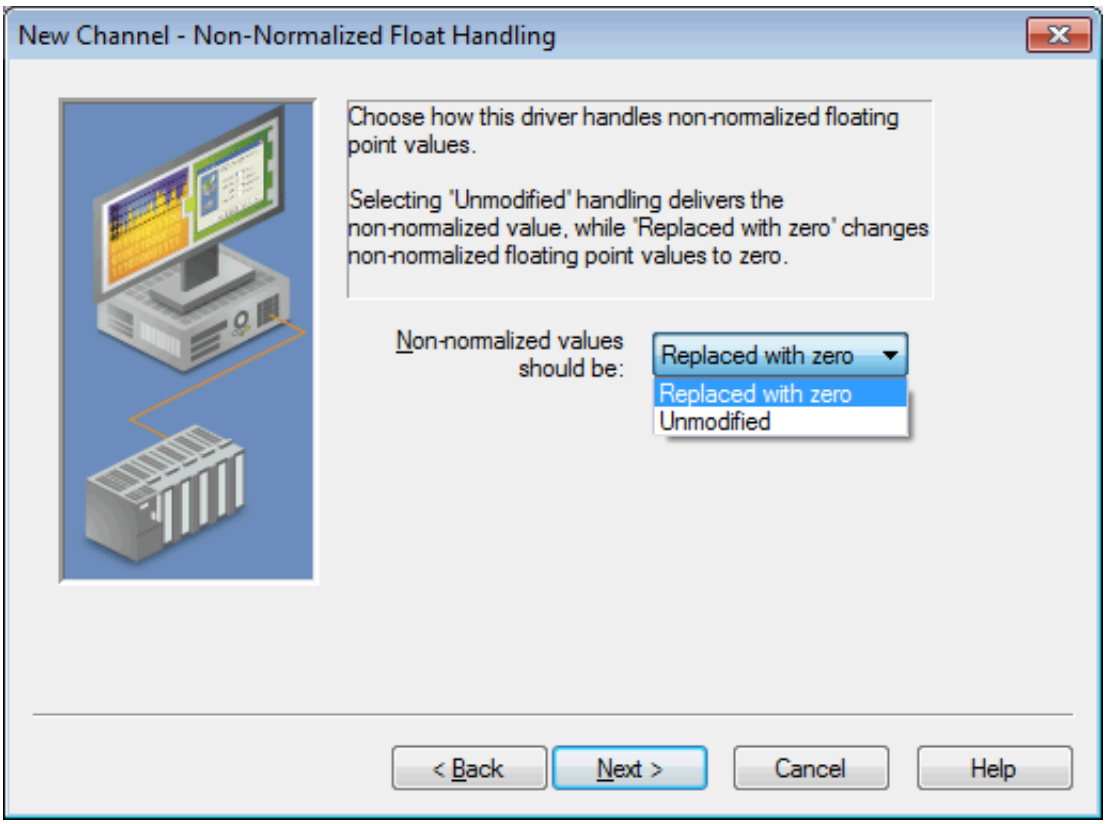

New Channel - Write Optimizations
You can control how the server processes writes on this channel. Set the optimization method and write-to-read duty cycle below.
Note: Writing only the latest value can affect batch processing or the equivalent.
Optimization Method
Write all values for all tags
Write only latest value for non-boolean tags
Write only latest value for all tags
Duty Cycle
Perform 10 writes for every 1 read
< Back
Next >
Cancel
Help

Optimization Method - Accept the default or change the selection by clicking in a radio button.

- Write all values for all tags (most data, most network traffic)
- Write only the latest value for non-Boolean tags (least data, least network traffic)
- Write only the latest value for all tags (key data, moderate network traffic)

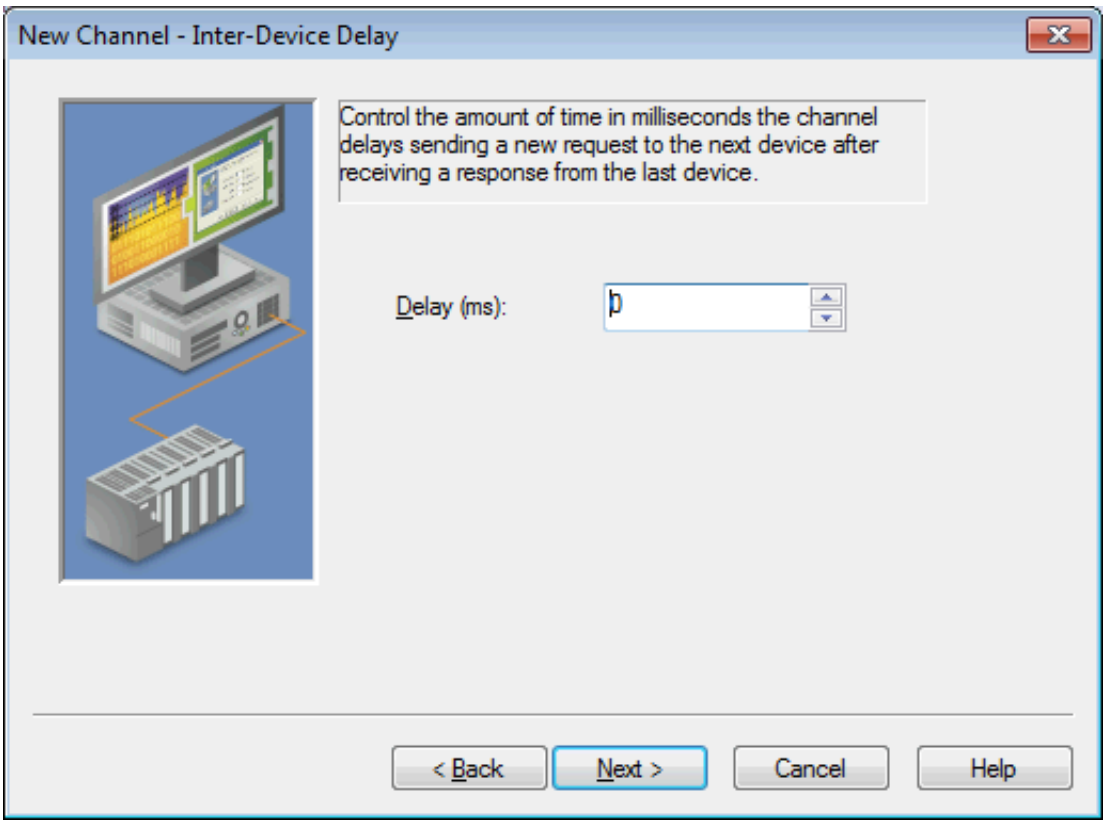
Duty Cycle - Accept 10 (default) writes for every 1 read or adjust using the up/down arrows. The range is 1-10.

13. Click **Next >**.
14. In the New Channel - Non-Normalized Float Handling wizard step, configure how non-normalized values will be handled.


New Channel - Non-Normalized Float Handling
Choose how this driver handles non-normalized floating point values.
Selecting 'Unmodified' handling delivers the non-normalized value, while 'Replaced with zero' changes non-normalized floating point values to zero.
Non-normalized values should be:
Replaced with zero
Replaced with zero
Unmodified
< Back
Next >
Cancel
Help

Replaced with zero recognizes invalid outliers and eliminates them by replacing the value with integer zero (default).
Unmodified allows values that are potentially invalid outliers into the data stream.

15. Click **Next >**.
16. In the New Channel - Inter-Device Delay wizard step, configure the time, in milliseconds, between requests to devices.


New Channel - Inter-Device Delay
Control the amount of time in milliseconds the channel delays sending a new request to the next device after receiving a response from the last device.
Delay (ms):
0
< Back
Next >
Cancel
Help

Delay Accept 0 milliseconds (default) or adjust using the up/down arrows. The range is 0-60000 ms.

17. Click **Next >**.
18. Review the configuration in the Summary wizard step.
19. If necessary, use the **< Back** button to return to previous steps to make changes.
20. Click **Finish >**.

See "Modem Setup " on page 23

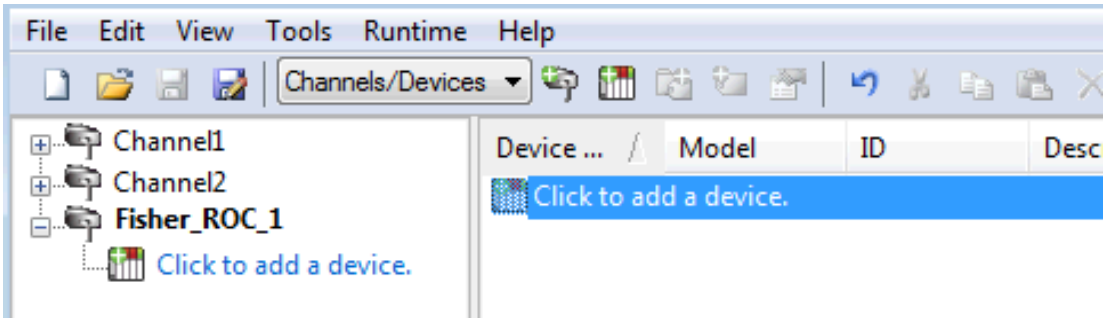
Device Setup

Once at least one channel is configured, devices using the Remote Operation Controllers (ROC) protocol can be added for data collection and monitoring. The maximum number of devices supported on any one channel is 255. Devices should be added to channels organized based on the channel configuration.

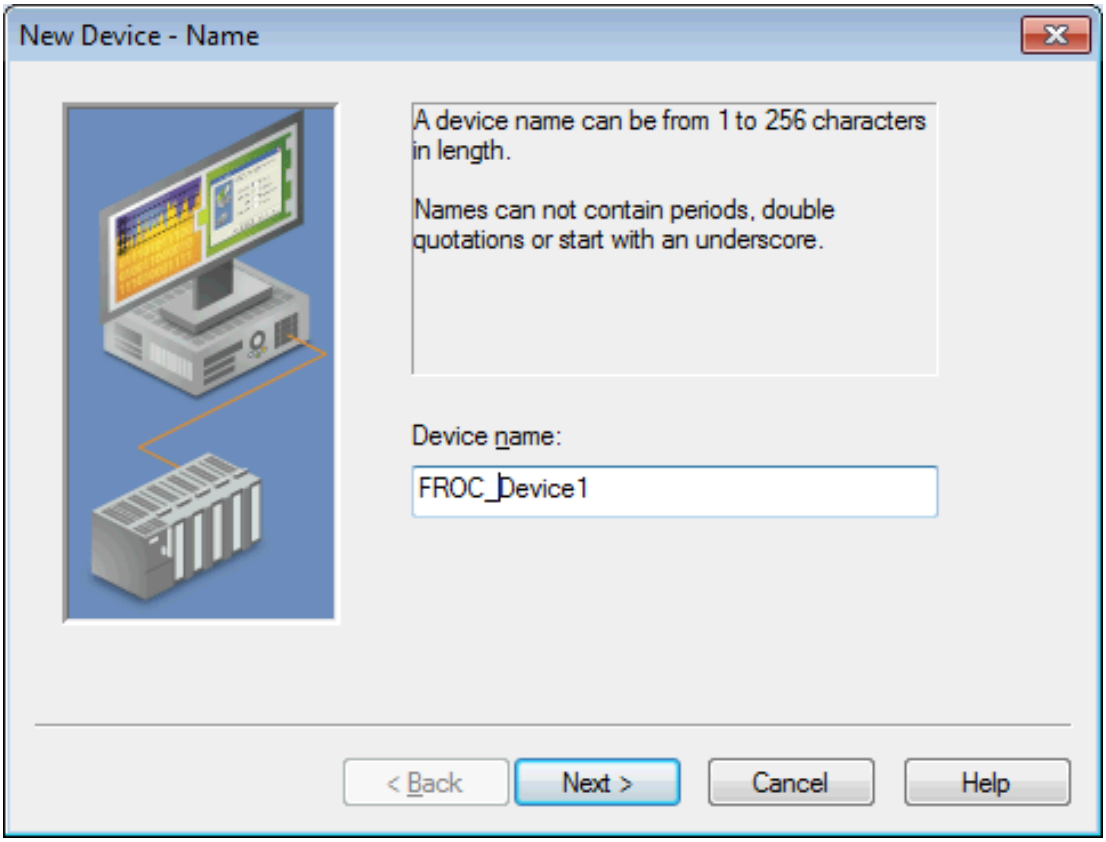
Adding a Device

To add a new device to a channel:

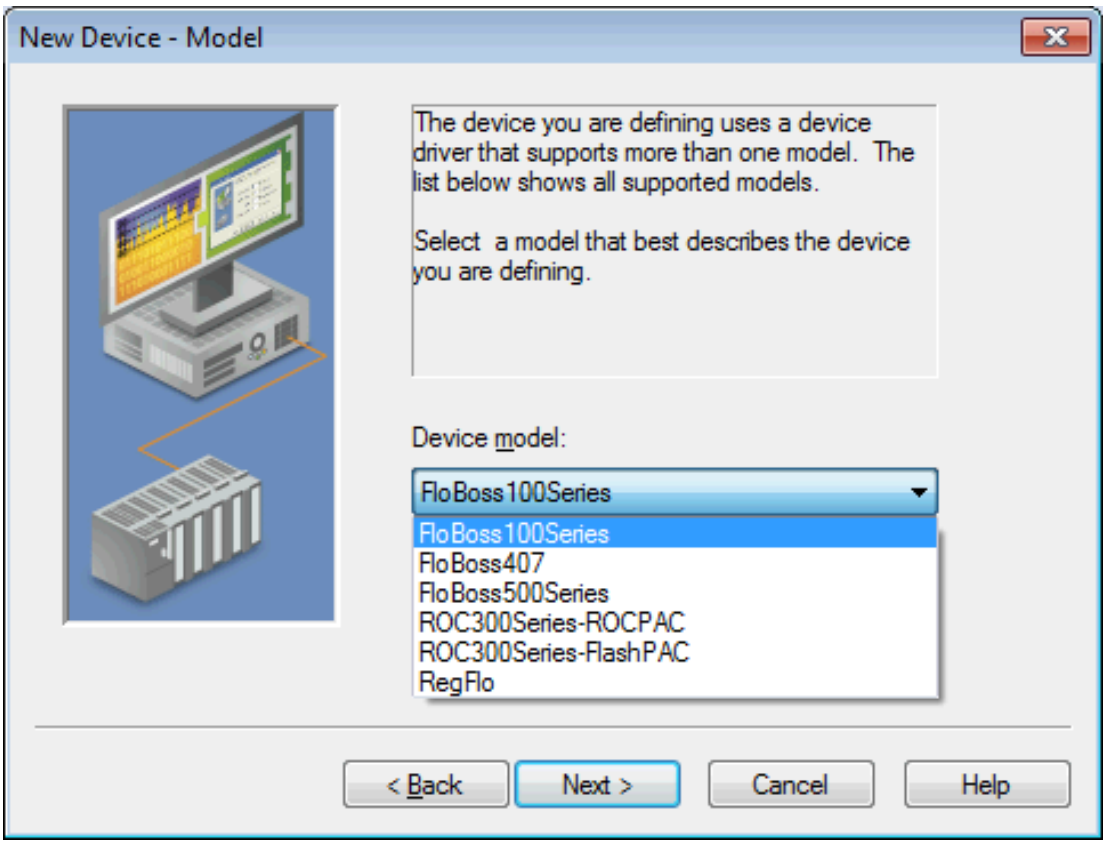
1. In the Project View, select the channel to contain the new device.
2. Select **Click to add a device** or right-click and choose **New Device**.



3. In the New Device - Name wizard step, accept the default channel name or enter a name for the new device.


New Device - Name
A device name can be from 1 to 256 characters in length.
Names can not contain periods, double quotations or start with an underscore.
Device name:
FROC_Device1
< Back
Next >
Cancel
Help

4. Click **Next >**.
5. From the Device Model drop-down, select the correct model for the device.

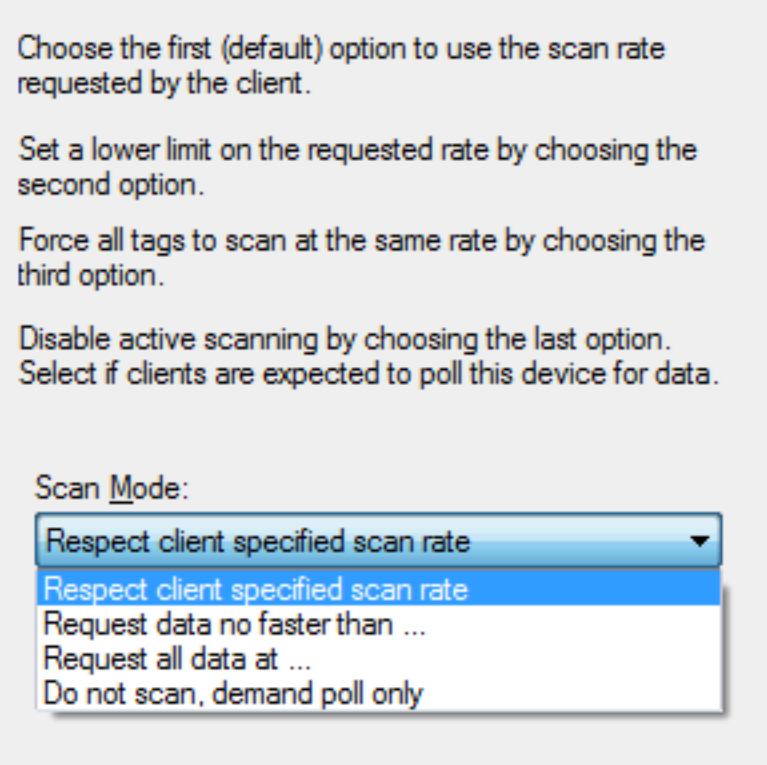


6. Click **Next >**.
7. In the New Device - Scan Mode wizard step, configure the Scan Mode.
8. Click **Next >**.
9. In the New Device - Timing wizard step, configure the Timeouts and Timing.
10. Click **Next >**.
11. In the New Device - Auto-Demotion wizard step, configure how communication failure is handled.
12. Click **Next >**.
13. In the New Device - Database Creation wizard step, configure Automatic Tag Database Generation.
14. Click **Next >**.
15. In the New Device - Time Synchronization wizard step, configure timezone, DST, and synchronization.
16. Click **Next >**.
17. In the New Device - Tag Import Settings wizard step, identify and locate existing files to be included *(see Tag Import Settings)*
18. Click **Next >**.
19. In the New Device - Communication Specification wizard step, identify the source and destination addresses *(see Communication Specification)*.
20. Click **Next >**.
21. In the New Device - Operator Identification wizard step, configure the authorized user *(see Operator Identification)*.
22. Click **Next >**.
23. In the New Device - EFM Meters wizard step, add or update the meters for this device *(see EFM Meters)*.

24. Click **Next >**.
25. In the New Device - Summary wizard step, review the configuration.
26. If necessary, use the **< Back** button to return to previous steps to make changes.
27. Click **Finish >**.

Scan Mode

Scan Mode settings are defined as a device is added and configured through the New Device wizard and can also be modified after the device has been added. To define the Scan Mode settings for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties**, and select the **Scan Mode** tab.

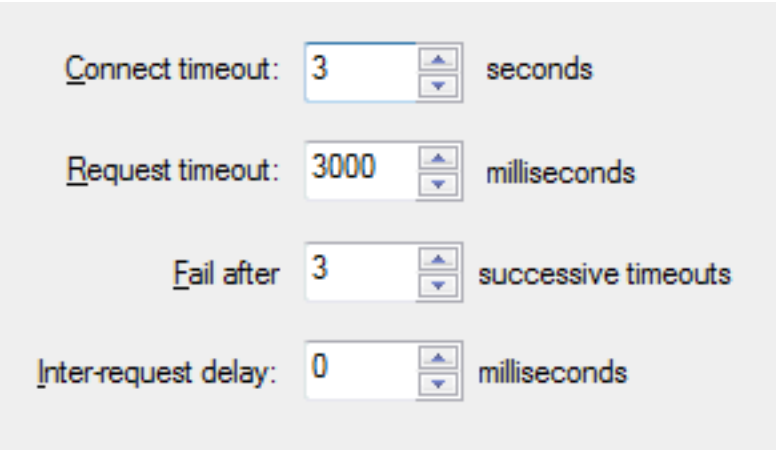

Choose the first (default) option to use the scan rate requested by the client.
Set a lower limit on the requested rate by choosing the second option.
Force all tags to scan at the same rate by choosing the third option.
Disable active scanning by choosing the last option.
Select if clients are expected to poll this device for data.
Scan Mode:
Respect client specified scan rate
Respect client specified scan rate
Request data no faster than ...
Request all data at ...
Do not scan, demand poll only

Descriptions of the parameters are as follows:

- **Respect client specified scan rate** uses the polling frequency of the client requesting data (default).
- **Request data no faster than...** sets a time, in milliseconds, to be the maximum frequency of polling.
- **Request all data at...** sets an interval, in millisecond, when all tag information is collected.
- **Do not scan, demand poll only...** allows a device to be polled by another process.

Timings and Timeouts

Timings and Timeouts settings are defined as a device is added and configured through the New Device wizard and can also be modified after the device has been added. To define the Timings and Timeout settings for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties**, and select the **Timing** tab.

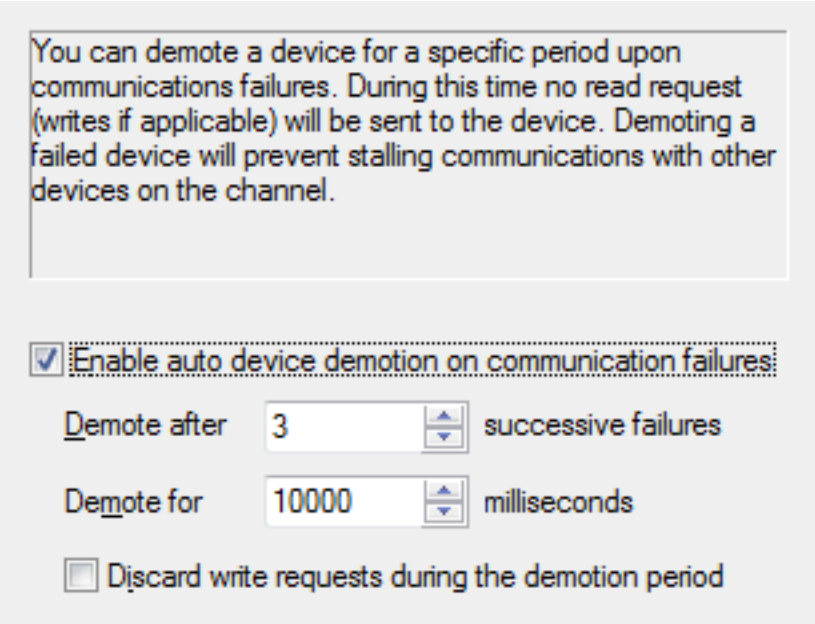

Connect timeout: 3 seconds
Request timeout: 3000 milliseconds
Fail after 3 successive timeouts
Inter-request delay: 0 milliseconds

Descriptions of the parameters are as follows:

- **Connect timeout** specifies the number of seconds before the server determines the connection has failed. The default is 3 seconds.
- **Request timeout** specifies the number of milliseconds before the server determines the a single poll failed. The default is 3000 milliseconds.
- **Fail after** specifies the number of consecutive attempts are considered a failed connection. The default is 3 successive timeouts.
- **Inter-request delay** specifies the number of milliseconds between poll attempts. The default is 0 milliseconds.

Automatic Demotion

Automatic Demotion settings are defined as a device is added and configured through the New Device wizard and can also be modified after the device has been added. To define the Scan Mode for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties** and select the **Auto-Demotion** tab.

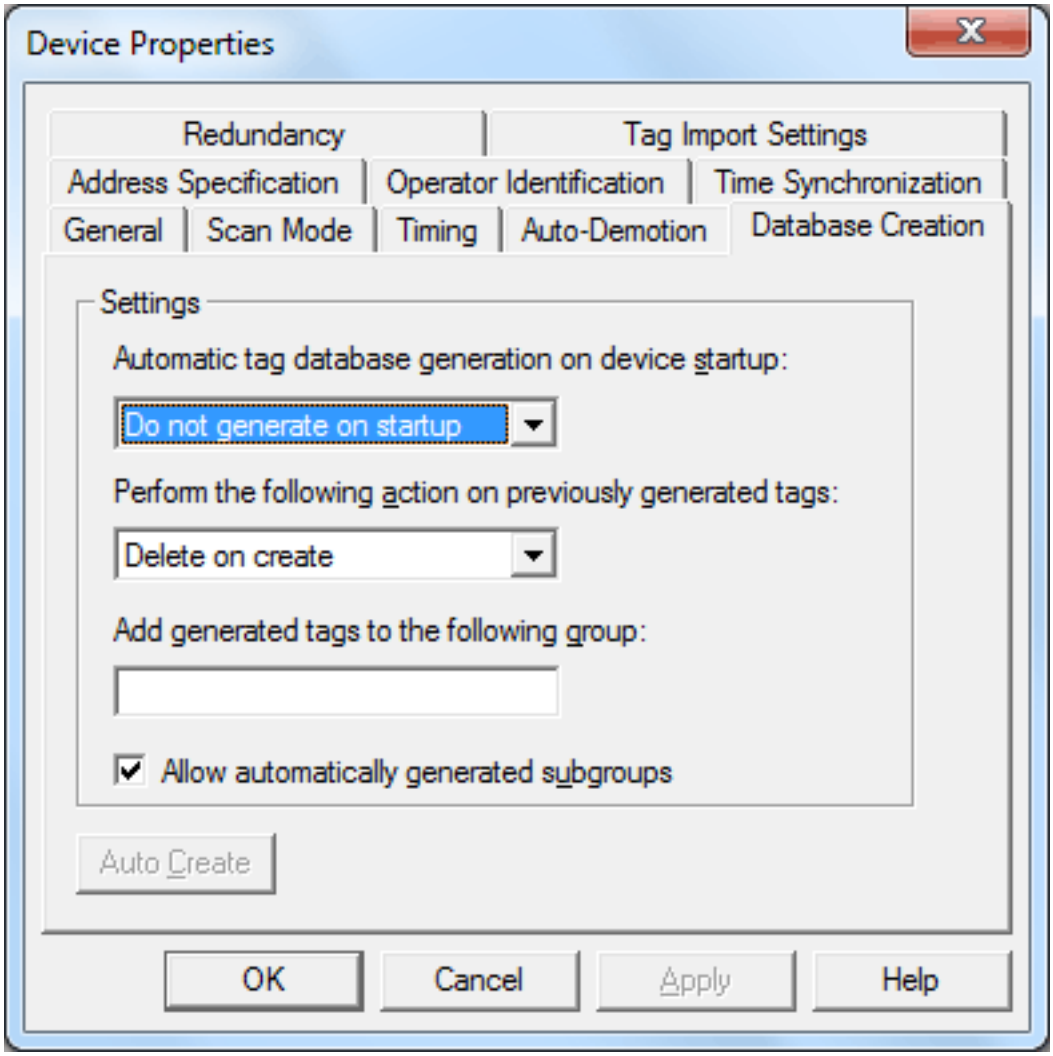

You can demote a device for a specific period upon communications failures. During this time no read request (writes if applicable) will be sent to the device. Demoting a failed device will prevent stalling communications with other devices on the channel.
Enable auto device demotion on communication failures
Demote after 3 successive failures
Demote for 10000 milliseconds
Discard write requests during the demotion period

Descriptions of the parameters are as follows:

- **Enable auto device demotion on communication failure** - Allows communication to bypass a non-responsive device and attempt data collection from other devices.
- **Demote after (n) successive failures** - Defines the number of failed attempts at communication before a device is bypassed. The default is 3.
- **Demote for (n) milliseconds** - Configures the time, in milliseconds, the demoted device is bypassed to allow other communication to occur. Once the delay expires, attempts to communicate with the device resume. The default is 10000 milliseconds.
- **Discard write requests during the demotion period** - Allows requests to be removed, rather than queued, while the device is non-responsive and demoted.

Automatic Tag Database Generation

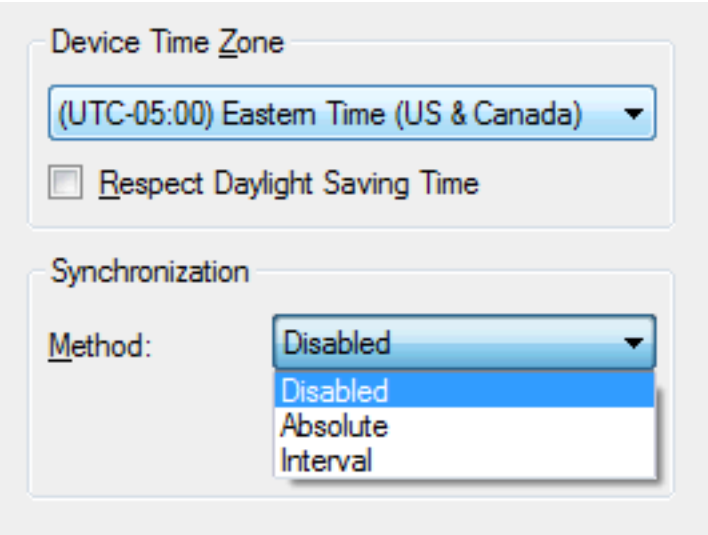
This driver supports the server's Automatic Tag Database Generation feature. When enabled, a list of tags is built within the server that correspond to the device's data points. Extra tags may be generated that affect the quality of other generated tags. To configure Automatic Tag Database Generation settings, locate the Database Creation tab in device properties.



Note: For information on importing tags from a ROCLINK project, refer to **Tag Import Settings**.

Time Synchronization

Time Synchronization settings are defined as a device is added and configured through the New Device wizard and can also be modified after the device has been added. To define the Scan Mode for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties**, and select the **Time Synchronization** tab.



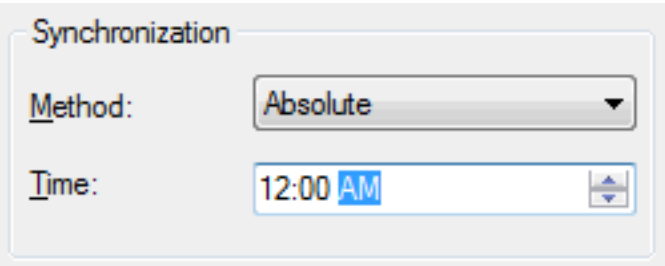
Descriptions of the parameters are as follows:

Select the time zone in which the device is installed. This is used for the data timestamps from the device.

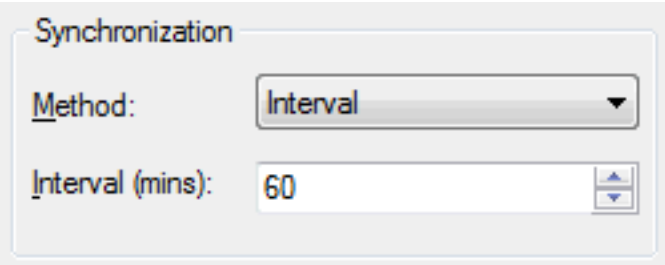
If the environment (servers, devices, clients) adjust for Daylight Saving Time, click to enable the option to **Respect Daylight Saving Time**.

There are three options for Synchronization Method:

- **Disabled** allows device, client, and server times to be fully independent (default).
- **Absolute** establishes a precise daily time when clocks in the environment (servers, devices, clients) are forced to the same time. This allows data correlation by timestamp. Use the up/down buttons to specify if the synchronization time.

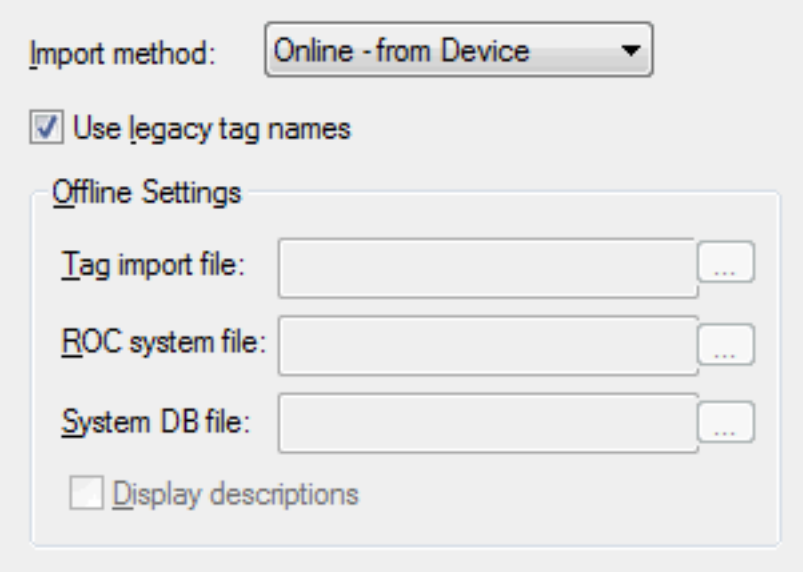


- **Interval** establishes a recurring synchronization of the environment clocks every specified number of minutes.



Tag Import Settings

Users can create a tag database based on either the device's configuration file or a ROCLINK 800 project file. To view or change the Tag Import settings after the device has been added, right-click on the device and select **Properties** | **Tag Import Settings**.



Descriptions of the parameters are as follows:

- **Import method:** This parameter specifies the import method. Options include Online - from Device and Offline - from Import File. The default setting is Online - from Device. Descriptions of the options are as follows:
    - **Online - From Device:** This method automatically creates tags by polling the device for its configuration and I/O data.
    - **Offline - From Import File:** This method automatically creates tags from a project file created in ROCLINK 800.
- **Use legacy tag names:** When checked, Automatic Tag Database Generation creates tags with names consistent with the tags created in prior versions of the server. When unchecked, Automatic Tag Database Generation creates tags with names consistent with the current version of the server. The default setting is checked.

  Note: For more information, refer to "Legacy vs. Non-Legacy Tag Names" below.
- **Tag import file:** When pressed, this button invokes a dialog for locating the *.800 file that was created using the ROCLINK800 software.
- **ROC system file:** When pressed, this button invokes a dialog for locating the *.mdb file. This file is usually named "ROC.mdb," and resides in the same folder where the ROCLINK 800 software is installed.
- **System DB file:** When pressed, this button invokes a dialog for locating the *.mdw file. This file is usually named "ROCLINK.mdw," and resides in the same folder where the ROCLINK 800 software is installed.
- **Display descriptions:** When checked, this option includes the tag descriptions from the ROCLINK 800 master database.

Legacy vs. Non-Legacy Tag Names

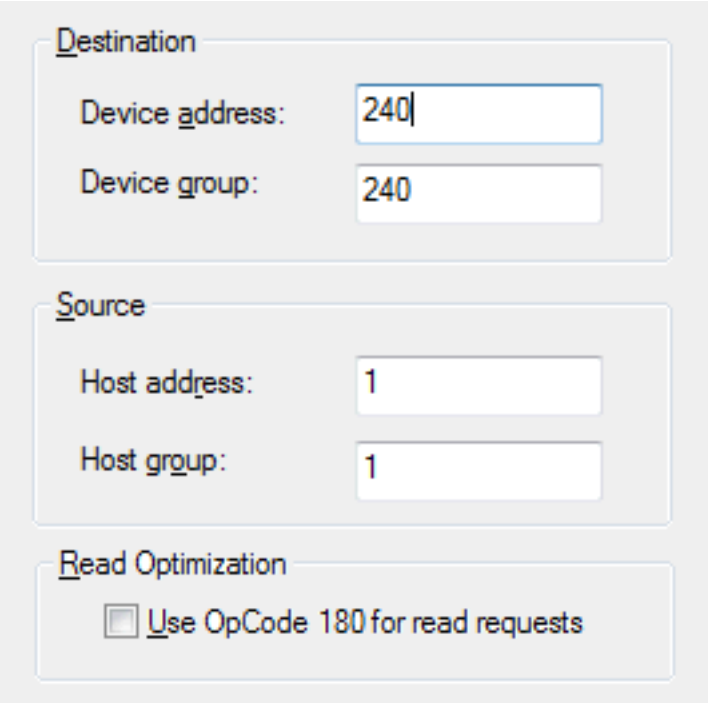
For information on how legacy and non-legacy tag names are automatically generated based on the "Use legacy tag names" option, refer to the table below.

Tag Type	Mode	Tag Name	Tag Address
Non-Boolean	Legacy Non-Legacy	IPAddress_12_0 IP Address-12 (T12,L0,P1)	12-0.1 12-0.1
Boolean (.Bit)	Legacy Non-Legacy	HighAlarm_3_0 High Alarm-3 (T3,L0,P16) Bit 2	3-0.16:2 3-0.16:2

See Also: Automatic Tag Database Generation

Communication Specification

Communication Specification settings are defined as a device is added and configured through the New Device wizard and can also be modified after the device has been added. To define the Communication Specification settings for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties**, and select the **Communication Specification** tab.

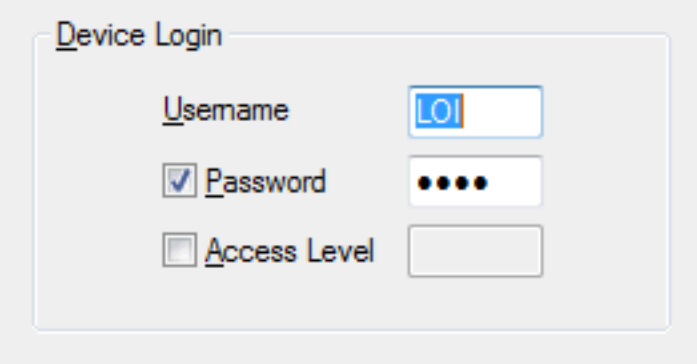


Descriptions of the parameters are as follows:

- **Device address:** This parameter specifies the device number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Device group:** This parameter specifies the group number of the remote ROC device. The valid range is 1 to 255. The default setting is 240.
- **Host address:** This parameter specifies the ROC unit number of the server. The valid range is 1 to 255. The default setting is 1.
- **Host group:** This parameter specifies the ROC group number of the server. The valid range is 1 to 255. The default setting is 1.
- **Use Opcode 180 for read requests:** This option should be used if few parameters from each point type and logical address are typically used, as it yields more efficient communication. If unchecked, the driver uses Opcode 167 to read entire point type logical addresses in one transaction. The default is unchecked.

Operator Identification

This dialog is used to specify the operator identification values used when logging into the ROC device during initialization. To view or change these settings after the device has been added, right-click on the device and select **Properties** | **Operator Identification**.



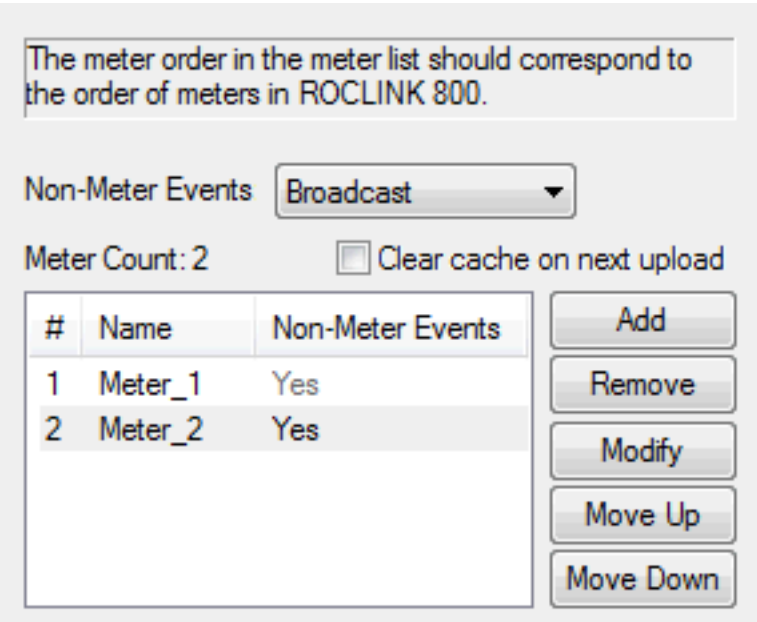
Descriptions of the parameters are as follows:

- **Username:** This parameter specifies the authorized account identity. Three characters (as set in the device) are required.
- **Password:** When checked, this option specifies that the ROC device has a password defined for the operator ID. Four numeric characters can be entered. The valid range is 0000 to 9999. The default setting is checked.
- **Access Level:** When checked, this option specifies that the ROC device has defined access levels. The valid range is 0 to 5. The default setting is unchecked.

EFM Meters

EFM Meter settings are defined when a device is added and configured through the New Device wizard and can also be modified at any time. To define the EFM Meter settings for a new device, follow the steps for **Adding a Device**. To modify settings on a defined device; select the device, right-click, select **Properties**, and select the **EFM Meters** tab.

Important:
The meter order in the EFM Meter List should match the order of the meters in ROCLINK 800.
Only Hourly and Daily History data may be uploaded from the FloBoss 100 Series and RegFlo devices.
Extended History data is not supported for those devices.



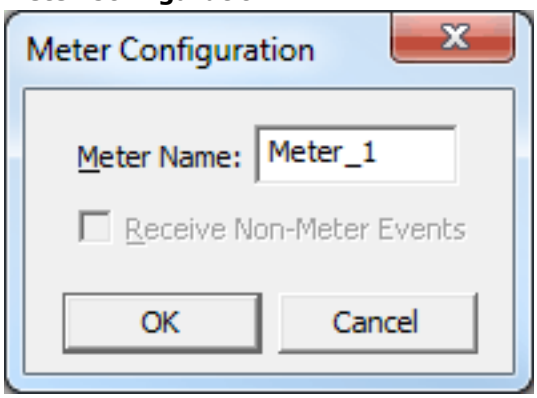
Descriptions of the parameters are as follows:

- **Non-Meter Events:** This parameter specifies how non-meter EFM events are provided to EFM Exporters. Options include Ignore, Broadcast, and Selected Meters. The default setting is Broadcast. Descriptions of the options are as follows:
  - **Ignore:** This option does not send non-meter events for any meters.
  - **Broadcast:** This option sends non-meter events for all meters.
  - **Selected Meters:** This option only sends non-meter events for enabled meters.
- **Meter Count:** This parameter displays the number of meters that have been added to the device.
- **EFM Meter List:** This list view displays the meters that are currently supported by the device, including the meter name and Non-Meter Event configuration.
  Note: The # column displays the actual meter number of each configured meter. This is the one-based meter number that corresponds to the meter numbers the ROCLINK 800 configuration software used to configure ROC devices.
- **Add:** When clicked, this button opens the Meter Configuration dialog for adding a new meter to the device.
- **Remove:** When clicked, this button deletes the selected meter from the EFM Meter List.
- **Modify:** When clicked, this button opens the Meter Configuration dialog for updating the selected meter in the EFM Meter List.
- **Move Up:** When clicked, this button changes the order, moving the selected meter up in the EFM Meter List.
- **Move Down:** When clicked, this button changes the order, moving the selected meter down in the EFM Meter List.

Clear Cache on Next Upload

Users have the option to clear any cached EFM data from the device during the next upload. This feature also removes pointer files, which are used to track EFM uploads to prevent uploading the same records twice. All EFM data is re-uploaded. Once the cache is cleared, this parameter is automatically disabled. To enable this option, open **Device Properties** | **EFM Meters** and click **Clear cache on next upload**. The default setting is unchecked.

Meter Configuration



Descriptions of the parameters are as follows:

- **Meter Name:** This parameter specifies the meter name. Each meter must be assigned a unique name. The default setting is Meter_1.
- **Receive Non-Meter Events:** When checked, this option enables the meter to receive non-meter events.

  Note: This option is only available when the Non-Meter Events parameter is set to Selected Meters.

Modem Setup

This driver supports modem functionality. For more information, please refer to the topic "Modem Support" in the OPC Server Help documentation.

Data Types Description

Data Type	Description
Boolean	Single bit
Char	Signed 8-bit value bit 0 is the low bit bit 6 is the high bit bit 7 is the sign bit
Byte	Unsigned 8-bit value bit 0 is the low bit bit 7 is the high bit
Short	Signed 16-bit value bit 0 is the low bit bit 14 is the high bit bit 15 is the sign bit
Word	Unsigned 16-bit value bit 0 is the low bit bit 15 is the high bit
DWord	Unsigned 32-bit value bit 0 is the low bit bit 31 is the high bit
Float	32-bit floating point value bit 0 is the low bit bit 31 is the high bit
TLP	32-bit value Point type: Logical or point number and parameter number use three bytes. The top byte is not used.
String	A linear group of ASCII characters with preserved whitespace (1 byte per character).
Date	64-bit floating point value
Date Example	Date format:YYYY-MM-DDTHH:MM:SS.000 2000-01-01T12:30:45.000

*For more information, refer to **Logical Point Number Details** and **ROC Point Types**.*

Address Descriptions

ROC addresses are divided first by point type, logical address, and then by parameter index within the point type. The general format is *T-L.P*, where:

- **T:** The Point Type
- **L:** The Logical Address
- **P:** The Parameter Index

Parameters are blocked together on point type and logical address to a size up to 236 bytes. Some parameters are broken down into individual bits. Those parameters are addressed as *T-L.P:B*, where:

- **B:** The Bit Offset

For example, the address 1-50.3:2 indicates the following:

- **Point Type:** 1
- **Logical Address:** 50
- **Parameter:** 3
- **Bit Offset:** 2

For a detailed listing of all point type parameters, access, data type, length, and description, refer to the ROC device's ROC Protocol User Manual. For more information on ROC addressing, select a link from the list below.

ROC Point Types
Logical / Point Number Details
User-Defined Point Types
Bit Assignments

ROC Point Types

The availability of point types varies by model and by how the particular unit is equipped. Points may be physical I/O or internal I/O.

Physical I/O Points

Physical I/O points are one of Discrete Inputs (type 1), Discrete Outputs (type 2), Analog Inputs (type 3), Analog Outputs (type 4), and Pulse Inputs (type 5). The logical address for physical I/O points is based on their position in the unit, known as point number. There are four slots for each rack. The I/O field is not typically fully populated.

Note: Rack and slot are ROC nomenclature; however, many ROC devices have no physical racks or slots.

Logical addresses are calculated from the Point Number reference. For information on reconciling the Point Number to the Logical Address, refer to the table below.

ROCLINK Point Number	Server Logical Address
A1-A16	0-15
B1-B16	16-31
C1-C16	32-47
D1-D16	48-63
E1-E16	64-79
...	...

For example, an I/O point with ROCLINK 800 point number "A5" would be logical address "4". An I/O point with ROCLINK 800 point number "C5" would be logical address "36" by the function A + B + C5 (or 15+16+5=36).

Internal I/O Points

Internal I/O points consist of PID settings, system flags, communications parameters and other internal information. The internal I/O logical address begins at 0 for each point type. A ROC unit may have one or several of a given internal point type. Each point type has a specific set of parameters. ROC drivers have no array types.

Point Type Tables

ROC Point Types for ROC300-Series
ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series

[ROC Point Types for RegFlo]

ROC Point Types for ROC300-Series

For a detailed listing of all point type parameters' access, data type, length and description, refer to the device's ROC Protocol User Manual.

Point Types	Description	ROC300-Series FlashPAC	ROC300-Series ROCPAC
0	Configurable Opcode	Yes	Yes
1	Discrete Inputs (DI)	Yes	Yes
2	Discrete Outputs (DO)	Yes	Yes
3	Analog Inputs (AI)	Yes	Yes
4	Analog Outputs (AO)	Yes	Yes
5	Pulse Inputs (PI)	Yes	Yes
6	Proportional, Integral and Derivative (PID) Control	Yes	Yes
7	American Gas Association (AGA) Flow Parameters	Yes	Yes
9	Local Display Panel	Yes	Yes
10	AGA Flow Values	Yes	Yes
11	Tank Parameters	No	Yes
12	ROC Clock	Yes	Yes
13	System Flags	Yes	Yes
14	Communication Ports	Yes	Yes
15	System Variables (ROC Information)	Yes	Yes
16	Function Sequence Table (FST) Parameters	Yes	Yes
17	Soft Points	Yes	Yes
18	AI Calibration	No	Yes
19	Database Setup	Yes	Yes
20	ROC Tasks	Yes	Yes
21	Information for User Defined Points	Yes	Yes
22-31	User Defined Points	No	No
32	User Defined Typically Modem Config for COM1	Yes	Yes
33	User Defined Typically Modem Config for LOI and COM2	Yes	Yes
34	User Defined Typically Modbus Config for COM1	Yes	Yes
35	User Defined Typically Function Config for COM1	Yes	Yes
36	User Defined Typically Host Config for COM1	Yes	Yes
37	User Defined Typically Modbus Config for LOI and COM2	Yes	Yes
38	User Defined Typically Function Config for LOI and COM2	Yes	Yes
39	User Defined Typically Host Config for COM1	Yes	Yes
40	Multi-Variable Sensor (MVS) Parameters	Yes*	No
41	AGA Run Parameters	Yes	No
42	Extra Run Parameters	Yes	No
44	Power Control	Yes	No
49	Upload to Disk	No	No
50	Download to ROC	No	No
56	AI Calibration	Yes	No
57	Keypad / Login Security Parameters	Yes	No
59	Program Flash Control Parameters	Yes	No

*Added via a user program.

ROC Point Types for FloBoss 100-Series, FloBoss 407, and FloBoss 500-Series

Point Types	Description	FloBoss 100-Series	FloBoss 407-Series	FloBoss 500-Series
0	Configurable Opcode	Yes	Yes	Yes
1	Discrete Inputs	Yes	Yes	Yes
2	Discrete Outputs	Yes	Yes	Yes

3	Analog Inputs	Yes	Yes	Yes
4	Analog Outputs	Yes	Yes	Yes
5	Pulse Inputs	Yes	Yes	Yes
6	PID Control*	Yes	Yes	Yes
7	AGA Flow Parameters*	Yes	Yes	Yes
8	History Parameters	Yes	No	Yes
10	AGA Flow Values*	Yes	Yes	Yes
12	ROC Clock	Yes	Yes	Yes
13	System Flags	Yes	Yes	Yes
14	Communication Ports	Yes	Yes	Yes
15	System Variables (ROC Information)	Yes	Yes	Yes
16	FST Parameters	Yes	Yes	Yes
17	Soft Points	Yes	Yes	Yes
19	Database Setup	Yes	Yes	Yes
20	ROC Tasks Diagnostics	No Yes	Yes No	No No
21	Information for User Defined Points	Yes	Yes	No
22-23	User Defined Points	No	No	No
24	Reserved	N/A	N/A	N/A
25–31	User Defined Points	No	No	No
32	User Defined – Typically Modem Config for COM1	Yes	Yes	No
33	User Defined – Typically Modem Config for LOI and COM2	Yes	Yes	No
34	User Defined – Typically Modbus Config for COM1	Yes	Yes	No
35	User Defined – Typically Function Config for COM1	Yes	Yes	No
36	User Defined – Typically Host Config for COM1	Yes	Yes	No
37	User Defined – Typically Modbus Config for LOI and COM2	Yes	Yes	No
38	User Defined: Typically Function Config for LOI and COM2	Yes	Yes	No
39	User Defined – Typically Host Config for COM1	Yes	Yes	No
40	Multi-Variable Sensor (MVS) Parameters	Yes	Yes	No
41	AGA Run Parameters*	Yes	Yes	Yes
42	Extra Run Parameters*	Yes	Yes	Yes
43	User Lists	Yes	Yes	Yes
44	Power Control	Yes	Yes	Yes
45	Meter Calibration and Sampler	Yes	No	Yes
46	Meter Configuration Parameters	Yes	No	Yes
47	Meter Flow Values	Yes	No	Yes
48	PID Control Parameters	Yes	No	Yes
49	Upload to Disk	No	No	No
50	Download to ROC	No	No	No
52	Battery Parameters	No	No	Yes
53	Modbus Configuration Parameters	Yes	No	Yes
54	Modbus Function Tables	Yes	No	Yes
55	Modbus Special Function Table	Yes	No	Yes
56	AI Calibration	Yes	Yes	Yes
57	Keypad / Login Security Parameters	Yes	Yes	Yes
58	Revision Information	Yes	No	Yes
59	Program Flash Control Parameters	Yes	Yes	Yes
60-77	SAM User Defined Parameters	No	No	No
80	Enhanced Communication (ECM) Parameters	Yes	No	No
85	HART Parameters	Yes	No	No

86	Extended History Parameters	Yes	No	No
88	BLM User Lists	Yes	No	No
89	Chart User List Parameters	Yes	No	No
93	License Key Information Parameters	Yes	No	No
94	User C Program Parameters	Yes	No	No
98	Extended Soft Point Parameters	Yes**	No	No
117	Modbus Configuration Parameters	Yes	No	No
118	Modbus Register Mapping Parameters	Yes	No	No
120	Modbus Master Modem Configuration	Yes	No	No
121	Modbus Master Polling Table Configuration Parameters	Yes	No	No
122	DS800 Configuration Parameters	Yes	No	No

*FloBoss 100-Series and FloBoss 500-Series Backward Compatibility.
**This point type is only supported by FloBoss 107.

ROC Point Types for RegFlo

Point Types	Description	Point Types	Description
0	Configurable Opcode	17	Soft Points
1	Discrete Inputs	19	Database Setup
2	Discrete Outputs	56	AI Calibration
3	Analog Inputs	57	Keypad / Login Parameters
4	Analog Outputs	80	Regulator Parameters
8	History Parameters	81	Logic Alarm Parameters
13	System Flags	84	User Discrete Values
14	Communication Ports	86	Extended History Parameters
15	System Variables	N/A	N/A

Logical / Point Number Details

Within each point type, individual points are referenced by a logical number or a point number. The point numbers used by the ROC protocol for point types 1 to 5 are based on a physical input or output (I/O) with a rack and module location. All other point types use a logical number and are numbered in sequence.

Physical Point Numbers 0 to 69

For point types 1 through 5, there are point numbers for the field I/O and for the diagnostic inputs. They are as follows:

- Point numbers 0 to 63 are assigned to field I/O (built-in or modular, 64 maximum). For example, if there were ten I/O modules in a ROC364, they would be points 0 through 9. The ROC I/O point database would reference these points by rack and module location, such as A1 through A10.
- Point numbers 64 to 69 are assigned to the diagnostic (system) I/O. For example, the five diagnostic points in a ROC364 would be 64 through 68. The ROC I/O point database would reference these points by rack and module (namely, E1 to E5).

Logical Point Numbers 0 to 127

For all other point types (0 and 6–59), the point number is 0 to *x*, where *x* is one less than the total number of points that exist for that point type. For example, the four MVS points in a FloBoss 407 would be logical numbers 0 through 3.

Note: All parameters are 0-based for each point type.

User-Defined Point Types

User-Defined Points (UDP) make user program data available to ROCLINK and OPC clients. They are generally used for configuration purposes. When creating a UDP in the server, the server Configuration always sets the data type to default. The data type is later read live from the device.

Important: Users must reinitialize the server after upgrading the user program on a device; otherwise, the server cannot access the new points available in the upgraded user program.

Supported Device Models
All FloBoss 100 Series devices.

Supported User-Defined Point Range
22 to 23
25 to 39
178 to 189

Troubleshooting
To avoid potential issues, users should do the following:

- Verify that the point type is within the supported UDP range.
- If a client attempts to write to a UDP type when no UDP type tags have been read since the server started, the write may fail with a Type Mismatch error. Always complete a read on UDP type tags before a write is attempted.
- Verify that the point type exists in one of the user programs installed on the device.
- Check the Event Log for the following error message, which occurs if the server fails to parse the UDP configuration: **Unable to parse the user-defined point configuration information for point type <point type> on device <device name>**.

User Table Points

User tables, also called Opcode tables, provide the ability to map any Point Type parameters to tables in the device. This driver has the ability to read and write data points in the user tables using Opcodes 10 and 11. The syntax for user table tags is:
user_table-n.m where *n* is the user table number and *m* is the data point or location within that table.

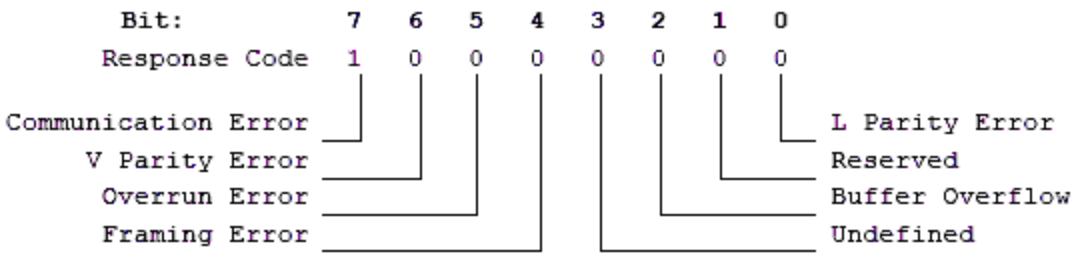
The user table number and location number are zero-based.
For example, the first location in the first user table is: user_table-0.0.

Important: Users must increment the version number of the user table when making changes to the table configuration. Failure to do so when making changes to the table while the server is actively reading user table tags results in bad quality tags or erroneous data.

Supported User Table Point Range
user_table-0.0 to user_table-15.43

Bit Assignments

The graphic below shows a sample bit assignment. The bits in each byte are numbered 0 to 7, right to left, with Bit 7 shown the furthest to the left. A 1 in any bit indicates that it is active or enabled.



Error Descriptions

The following categories of messages may be generated. Click on a link to see a list of related messages.

Address Validation
Automatic Tag Database Generation
Device-Specific Messages
Device Status Messages
Serial Communications
User Configurable Table Messages
User-Defined Point Error Messages

See Also:
ROC Error Codes
Error Reasons

Address Validation

The following messages may be generated. Click on the link for a description of the message.

Address <address> is out of range for the specified device or register.
Data Type <type> is not valid for device address <address>.
Device address <address> contains a syntax error.
Device address <address> is not supported by model <model name>.
Device address <address> is read only.
Missing address.

Address <address> is out of range for the specified device or register.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically references a location that is beyond the range of supported locations for the device.

Solution:
Verify that the address is correct; if it is not, re-enter it in the client application.

Data type <type> is not valid for device address <address>.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically has been assigned an invalid data type.

Solution:
Modify the requested data type in the client application.

Device address <address> contains a syntax error.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically contains one or more invalid characters.

Solution:
Re-enter the address in the client application.

Device address <address> is not supported by model <model name>.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically references a location that is valid for the communications protocol but not supported by the target device.

Solution

1. Verify that the address is correct; if it is not, re-enter it in the client application.
2. Verify that the selected model name for the device is correct.

Device address <address> is read only.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically has a requested access mode that is not compatible with what the device supports for that address.

Solution:
Change the access mode in the server application.

Missing address.

Error Type:
Warning

Possible Cause:
A tag address that has been specified statically has no length.

Solution:
Re-enter the address in the server application.

Automatic Tag Database Generation Messages

The following messages may be generated. Click on a link for a description of that message.

Error importing CSV tag record <record number>: Address <address> is out of range for the specified device or register.
Unable to generate a tag database for device <device>. Reason: <Error reason>.
Unable to generate a tag database for device <device>. Reason: Auto tag generation failed: device is not responding.
Unable to generate a tag database for device <device>. Reason: Error while reading from import file.
Unable to generate a tag database for device <device>. Reason: Error while reading from ROC system file.
Unable to generate a tag database for device <device>. Reason: Failed to open record set.
Unable to generate a tag database for device <device>. Reason: Import file <file name> not found.
Unable to generate a tag database for device <device>. Reason: Input file is corrupt.
Unable to generate a tag database for device <device>. Reason: Input file not found.
Unable to generate a tag database for device <device>. Reason: Low memory resources.
Unable to generate a tag database for device <device>. Reason: ROC system file <file name> not found.
Unable to generate a tag database for device <device>. Reason: System DB file <file name> not found.

Error importing CSV tag record <record number>: Address <Address> is out of range for the specified device or register.

Error Type:
Warning

Possible Cause:
An imported tag address specifies a location that is beyond the range of supported locations for the device.

Solution:
Verify that the address is correct; if it is not, re-enter it in the file being imported.

Unable to generate a tag database for device <device>. Reason: <error reason>.

Error Type:
Warning

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

Unable to generate a tag database for device <device>. Reason: Auto tag generation failed. Device is not responding.

Error Type:
Serious

Possible Cause:

1. The connection between the device and the host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.

Solution:

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

Unable to generate a tag database for device <device>. Reason: Error while reading from import file.

Error Type:
Warning

Possible Cause:

1. The tag import file (*.800) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

Solution:

1. Ensure that the project is pointing to the correct import file.
2. Re-create the import file using the ROCLINK 800 software and then re-try the import.

Unable to generate a tag database for device <device>. Reason: Error while reading from ROC system file.

Error Type:
Warning

Possible Cause:

1. The ROC system file (*.mdb) is corrupt.
2. The specified file was not created using the ROCLINK 800 software.

Solution:

1. Ensure that the project is pointing to the correct ROC system file.
2. Re-install the ROCLINK 800 software to re-install the system file. Then, re-try the import.

Unable to generate a tag database for device <device>. Reason: Failed to open record set.

Error Type:
Warning

Possible Cause:

1. The project file is corrupt or does not exist.
2. The location of the ROC.MDB and/or ROCLINK.MDW files have been specified incorrectly.

Solution:
In the server project, right-click on the device and select **Properties**. Open the Tag Import Settings tab to check the name of the project file to import.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device <device>. Reason: Import file <file name> not found.

Error Type:
Warning

Possible Cause:
The import file cannot be found.

Solution:
Ensure that the tag import file (*.800) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server runtime.

Unable to generate a tag database for device <device>. Reason: Input file is corrupt.

Error Type:
Warning

Possible Cause:
The import file is corrupt.

Solution:
In the server project, right-click on the device and select **Properties**. Open the Tag Import Settings tab to review the settings and check the import file. If necessary, re-export the project file from within ROCLINK800.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device <device>. Reason: Input file not found.

Error Type:
Warning

Possible Cause:
The import file cannot be found.

Solution:
In the server project, right-click on the device and select **Properties**. Open the Tag Import Settings tab to check the name of the project file to import. This file must be accessible to the server runtime.

See Also:
Tag Import Settings
Automatic Tag Database Generation

Unable to generate a tag database for device <device>. Reason: Low memory resources.

Error Type:
Warning

Possible Cause:
The memory required for automatic tag generation could not be allocated. The process is aborted.

Solution:
Close unused applications and/or increase the amount of virtual memory and try again.

Unable to generate a tag database for device <device>. Reason: ROC system file <file name> not found.

Error Type:
Warning

Possible Cause:
The ROC system file cannot be found.

Solution:
Ensure that the ROC system file (*.mdb) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server runtime.

Unable to generate a tag database for device <device>. Reason: System DB file <file name> not found.

Error Type:
Warning

Possible Cause:
The System DB file cannot be found.

Solution:
Ensure that the System DB file (*.mdw) is present in the location specified in the Tag Import Settings tab of Device Properties. This file must be accessible to the server runtime.

Device-Specific Messages

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

<Device name> - Failed to read EFM pointer file. <Extended error>.

<Device name> - Failed to write EFM pointer file. <Extended error>.
Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. <Error reason>.
Device <device> responded with error. (Tag <tag address>)-Details: <error code>.
Failed to obtain data block for point type = <point type>, logical address = <address>, starting parameter = <starting parameter>, ending parameter <ending parameter> for device <device>. Error = <ROC error code>.
Failed to write data for point type = <point type>, logical address = <address>, parameter = <parameter> for device <device>. Error = <error code>.
Operator identification failed for device <device name>. <Error reason>.
Read for point type <point type>, logical address <logical address>, parameter number <parameter number> of device <device name> failed. <Error Reason>.
ROC initialization error: Unable to read general configuration.
ROC initialization error: Unable to retrieve I/O map.
Serialization of EFM data to temporary file <file name> failed. Reason: <file I/O error>.
The username or password supplied was not accepted. Error = 6.
The username or password supplied was not accepted. Error = 63.
Time synchronization with device <device name> failed. <Error reason>.
Write for the following tags of device <device name> failed: <tag list>. <Error reason>.
Write request rejected on read only item reference <channel name> <device name> <address>.

<Device Name> - Failed to read EFM pointer file. <Extended error>.

Error Type:
Warning

Extended Error:
When supplied by the operating system, this describes the file error that occurred.

Possible Cause:

1. A permission error was encountered when the EFM pointer cache was read.
2. The EFM pointer cache file is corrupt.

Solution:
The Fisher ROC Serial Driver automatically generates a new EFM pointer file; however, the server re-polls (uploading all EFM data) during the next EFM poll for meters in the device.

Note:
For more information, refer to the extended error.

<Device Name> - Failed to write EFM pointer file. <Extended error>.

Error Type:
Warning

Extended Error:
When supplied by the operating system, this describes the file error that occurred.

Possible Cause:

1. The disk is full.
2. A permission error was encountered when the EFM pointer cache was written.

Solution:
The server attempts to update the EFM pointer file periodically, in addition to when the server is shutdown. If the pointer file cannot be written, the server re-polls (uploading all EFM data) during the next EFM poll for meters in the device.

Note:
For more information, refer to the extended error.

Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. <Error reason>.

Error Type:
Serious

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

Device <device> responded with error. (Tag <tag address>)-Details: <error code>.

Error Type:
Serious

Possible Cause:

1. The connection between the device and the host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. Value written is out of range or write was performed while in an incorrect setup area.

Solution:

1. Check the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

See Also:
Device Setup

Failed to obtain data block for point type = <point type>, logical address = <address>, Starting Parameter = <starting parameter>, ending parameter <ending parameter> for device <device>. Error = <ROC error code>.

Error Type:
Serious

Possible Cause:

1. Invalid tag address for point in block.
2. Device not responding.

Solution:

1. Verify the cabling between the PC and the device.
2. Confirm that all tags within this block exist on the device.

See Also:
ROC Error Codes

Failed to write data for point type = <point type>, logical address = <address>, parameter = <parameter> for device <device>. Error = <error code>.

Error Type:
Serious

Possible Cause

1. The address is incorrect.
2. The unit does not support the particular address point.
3. The privileges for the logged-in user do not permit this operation.

Solution:

1. Consult the ROC error code reference for further information regarding the error code.
2. Correct the address.
3. Confirm that the address is supported by the controller in use.
4. Supply an operator identification with sufficient privileges.

See Also:
ROC Error Codes

Operator identification failed for device <device name>. <Error reason>.

Error Type:
Serious

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons
Operator identification

Read for point type <point type>, logical address <logical address>, parameter number <parameter number> of device <device name> failed. <Error reason>.

Error Type:
Serious

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

ROC initialization error: Unable to read general configuration.

Error Type:
Fatal

Possible Cause:
The driver may not be receiving a response from the device.

Solution:

1. Make sure the device is physically connected and powered on.
2. Check that the COM port is working and configured properly at the channel level (in the server).
3. Check the device-level Operator Identification and Communication Specification settings and verify that they are correct.

See Also:
Operator Identification
Communication Specification

ROC initialization error: Unable to retrieve I/O map.

Error Type:
Fatal

Possible Cause:
Access to the I/O Map has been restricted for the current user.

Solution:
Check the Operator Identification settings (such as, username, password, and access level) and verify that they are correct.

See Also:
Operator Identification

Serialization of EFM data to temporary file <file name> failed. Reason: <file I/O error>.

Error Type:
Warning

Possible Cause:

1. The driver was unable to create the specified file directory.
2. The driver was unable to access the specified file.

Solution:

1. Verify that the disk has sufficient disk space.
2. Verify user permissions for the specified file directory.

The username or password supplied was not accepted. Error = 6.

Error Type:
Fatal

Possible Cause:
An access level has been enabled on the device but not in the driver.

Solution:
Check the Operator Identification settings and make sure the Enable Access Level checkbox is checked.

See Also:
Operator Identification

The username or password supplied was not accepted. Error = 63.

Error Type:
Fatal

Possible Cause:
The access level that has been enabled on the device is lower than the operator's access level.

Solution:
Check the Operator Identification settings and make sure the operator's access level is less than or equal to the access level enabled in the device.

See Also:
Operator Identification

Time synchronization with device <device name> failed. <Error reason>.

Error Type:
Serious

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

Write for the following tags of device <device name> failed: <tag list>. <Error reason>.

Error Type:
Serious

Possible Cause:
The error occurred due to the specified error reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

Write request rejected on read only item reference <channel name> <device name> <address>.

Error Type:
Warning

Possible Cause:
The driver was attempting to write to read-only data in the ROC controller.

Solution:
Do not attempt to write to read-only points.

Note:
In some situations, the automatic tag generation process identifies read-only data as read/write based on the configuration that the driver retrieved from the ROC controller and the ROC specification. Nonetheless, the ROC controller itself is the final authority on whether a point is writable. For more information, refer to the controller's documentation.

Device Status Messages

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Device <device name> is not responding.
EFM <type> upload failed for device <device>. <Reason>.
Resetting the EFM cache for device <device>.

Device <device name> is not responding.

Error Type:
Serious

Possible Cause:

1. The connection between the device and the Host PC is intermittent.
2. The communication parameters for the serial connection are incorrect.
3. The response from the device took longer to receive than the amount of time specified in the "Request Timeout" device setting.

Solution:

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.
3. Increase the Request Timeout setting so that the entire response can be handled.

EFM <type> upload failed for device <device>. <Reason>.

Error Type:
Warning

Possible Cause:
An EFM upload of the specified type could not be completed due to the specified reason.

Solution:
Resolve the issue. Then, re-attempt the EFM upload.

Resetting the EFM cache for device <device>.

Error Type:
Informational

Possible Cause:
The EFM cache was successfully cleared for the specified device.

Solution:
N/A

Serial Communications

The following error/warning messages may be generated. The messages are listed here in alphabetical order.

Communications error on <channel name> [<error mask>].
COMn does not exist.
COMn is in use by another application.
Error opening COMn.
Unable to set comm parameters on COMn.

Communications error on <channel name> [<error mask>].

Error Type:

Serious

Error Mask Definitions:
B = Hardware break detected.
F = Framing error.
E = I/O error.
O = Character buffer overrun.
R = RX buffer overrun.
P = Received byte parity error.
T = TX buffer full.

Possible Cause:

1. The serial connection between the device and the host PC is bad.
2. The communication parameters for the serial connection are incorrect.

Solution:

1. Verify the cabling between the PC and the device.
2. Verify that the specified communication parameters match those of the device.

COMn does not exist.

Error Type:
Fatal

Possible Cause:
The specified COM port is not present on the target computer.

Solution:
Verify that the proper COM port has been selected in the Channel Properties.

COMn is in use by another application.

Error Type:
Fatal

Possible Cause:
The serial port assigned to a device is being used by another application.

Solution:
Verify that the correct port has been assigned to the channel.

Error opening COMn.

Error Type:
Fatal

Possible Cause:
The specified COM port could not be opened due to an internal hardware or software problem on the target computer.

Solution:
Verify that the COM port is functional and may be accessed by other Windows applications.

Unable to set comm parameters on COMn.

Error Type:
Fatal

Possible Cause:
The serial parameters for the specified COM port are not valid.

Solution:

Verify the serial parameters and make any necessary changes.

User Configurable Table Messages

The following messages may be generated. The messages are listed here in alphabetical order.

Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Framing error.
Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Locations are not configured in the user table.
Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Device returned error code <error code>.
Error parsing user table configuration on device <device name>. User table <table number> contains an invalid point type, location, or parameter in table location <location address>.
Error parsing user table configuration on device <device name>. User table <table number> contains an invalid user-defined point type, location, or parameter in table location <location address>.
Read for user table <table number>, location <location address> of device <device name> failed. Device returned error code <error code>.
Read for user table <table number>, location <location address>, of device <device name> failed. Framing error.
Read for user table <table number>, location <location address>, of device <device name> failed. Location is not configured in the user table.
User table configuration upload on device <device name> failed. Device not responding.
User table configuration upload on device <device name> failed. Device responded with error code <error code>.
User table configuration upload on device <device name> failed. Framing error.
User table configuration upload on device <device name> failed. Internal error.

Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Device returned error code <error code>.

Error Type:
Serious

Possible Cause:
The error occurred for the reason specified by the error code.

Solution:
The solution depends on the specified error code.

See Also:
ROC Error Codes

Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Framing error.

Error Type:
Serious

Possible Cause:
There may be an error in the device configuration or the server received a malformed packet.

Solution:
Troubleshoot the device configuration.

Block read for user table <table number>, location range <start location> - <end location> of device <device name> failed. Locations are not configured in the user table.

Error Type:
Serious

Possible Cause:
There is an error in the device configuration. At least one location in the specified range is undefined.

Solution:
Define missing location(s) in the specified user table.

Error parsing user table configuration on device <device name>. User table <table number> contains an invalid user-defined point type, location, or parameter in table location <location address>.

Error Type:
Serious

Possible Cause:
There is an error in the device configuration. The specified user table is configured with at least one invalid user-defined point.

Solution:
Configure the specified user table with valid TLP and/or UDP entries.

Error parsing user table configuration on device <device name>. User table <table number> contains an invalid point type, location, or parameter in table location <location address>.

Error Type:
Serious

Possible Cause:
There is an error in the device configuration. The specified user table is configured with at least one invalid TLP.

Solution:
Configure the specified user table with valid TLP entries.

Read for user table <table number>, location <location address> of device <device name> failed. Device returned error code <error code>.

Error Type:
Serious

Possible Cause:
The error occurred for the reason specified by the error code.

Solution:
The solution depends on the specified error code.

See Also:
ROC Error Codes

Read for user table <table number>, location <location address> of device <device name> failed. Framing error.

Error Type:
Serious

Possible Cause:
There may be an error in the device configuration or the server received a malformed packet.

Solution:
Troubleshoot the device configuration.

Read for user table <table number>, location <location address> of device <device name> failed. Location is not configured in the user table.

Error Type:
Serious

Possible Cause:
There is an error in the device configuration. The specified user table location is undefined.

Solution:
Define the missing table location in the device.

User table configuration upload on device <device name> failed. Device not responding.

Error Type:
Serious

Possible Cause:

1. The connection between the device and the host PC is intermittent.
2. The communication parameters for the Ethernet connection are incorrect.
3. The response from the device took longer to receive than the amount of time specified in the Request Timeout device setting.

Solution:

1. Verify the network between the PC and the device.
2. Verify that the specified communication parameters match those of the device.
3. Increase the Request Timeout setting so that the entire response can be handled.

User table configuration upload on device <device name> failed. Device responded with error code <error code>.

Error Type:
Serious

Possible Cause:
The error occurred for the reason specified by the error code.

Solution:
The solution depends on the specified error code.

See Also:
ROC Error Codes

User table configuration upload on device <device name> failed. Framing error.

Error Type:
Serious

Possible Cause:
There may be an error in the device configuration or the server received a malformed packet.

Solution:
Troubleshoot the device configuration.

User table configuration upload on device <device name> failed. Internal error.

Error Type:
Serious

Possible Cause:
Inadequate system resources.

Solution:
Free system resources and reinitialize the server. If trouble persists, please contact Technical Support.

User-Defined Point Messages

The following messages may be generated. Click on a link for a description of that message.

Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. Parameters are not in the loaded UDP configuration.
Read for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name> failed. Parameter is not in the loaded UDP configuration.
Unable to load user-defined point configuration for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name>. The number of parameters for this point is 0.
Unable to parse the user-defined point configuration information for point type <point type> on device <device name>.
User-defined point configuration upload for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name> failed. <Error reason>.

Block read for point type <point type>, logical address <logical address>, parameter range <start parameter - end parameter> of device <device name> failed. Parameters are not in the loaded UDP configuration.

Error Type:
Serious

Possible Cause:
The user program that is associated with the specified parameters has been upgraded to a newer version.

Solution:
Reinitialize the server to access the new parameters available in the upgraded user program.

Read for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name> failed. Parameter is not in the loaded UDP configuration.

Error Type:
Serious

Possible Cause
The user program that is associated with this parameter has been upgraded to a newer version.

Solution:
Reinitialize the server to access the new parameters available in the upgraded user program.

Unable to load user-defined point configuration for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name>. The number of parameters for this point is 0.

Error Type:
Serious

Possible Cause:
The user program that supports the point type is not installed on the device.

Solution:
Verify that the user program that supports the point type is installed on the device.

Unable to parse the user-defined point configuration information for point type <point type> on device <device name>.

Error Type:
Serious

Possible Cause
There was unexpected data in the UDP configuration read from the device.

Solution:
This error requires further troubleshooting. Please contact Technical Support.

User-defined point configuration upload for point type <point type>, logical address <logical address>, parameter number <parameter> of device <device name> failed. <Error reason>.

Error Type:
Serious

Possible Cause
The error occurred due to the specified reason.

Solution:
The solution depends on the specified error reason.

See Also:
Error Reasons

ROC Error Codes

Error Codes Returned by Opcode 255

Opcode 255 is an error message indicator that returns an error code.

FlashPACs, FloBoss 500-Series, FloBoss 100-Series and RegFlo Models

Error Code	Description
1	Invalid Opcode request
2	Invalid Parameter Number
3	Invalid Logical Number / Point Number
4	Invalid Point Type
5	Received too many data bytes
6	Received too few data bytes
7	Did not receive 1 data byte
8	Did not receive 2 data byte
9	Did not receive 3 data byte
10	Did not receive 4 data byte
11	Did not receive 5 data byte
12	Did not receive 16 data byte
13	Outside valid address range
14	Invalid history request
15	Invalid FST request
16	Invalid event entry
17	Requested too many alarms
18	Requested too many events
19	Write to read only parameter
20	Security error
21	Invalid security login
22	Invalid store and forward path
23	Flash programming error
24	History configuration in progress
63	Requested security level too high

ROCPACs and FloBoss 407 Models

Read Errors

Error Code	Description
8	More than 250 data bytes in response
9	Invalid parameter
90	One of the following conditions occurred: - Did not receive 4 data bytes - Invalid point type
91	Point does not exist
92	Point does not exist
93	Invalid range of parameters requested
94	Too many data bytes to send (more than 240)

Write Errors

Error Code	Description
103	Received less than 4 data bytes
104	Point type out of range (1-24 are valid)
105	Point does not exist, or invalid parameter
106	Not enough data bytes received

Error Reasons

Error Reason	Possible Cause	Solution
Device not responding	*For more information, refer to* ***Device <device name> is not responding***.	*For more information, refer to* ***Device <device name> is not responding***.
Device responded with error code	The ROC device responded with an error code.	*For more information, refer to* ***ROC Error Codes***.
Framing error	The response packet from the ROC device has data fields that are not as per the protocol.	This error is very rare. If encountered, users should check with the manufacturer to ensure that the ROC device is consistent with the protocol.
Operator identification error	The operator identification login (with User ID and password) failed.	Refer to the Event Log message that corresponds to the operator identification failure.

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